



GB 31604.60-2024

National Food Safety Standard

Determination of Residual Solvents in Food Contact Materials and Products

食品安全国家标准 食品接触材料及制品
溶剂残留量的测定

National Health Commission of the People's
Republic of China
State Administration for Market Regulation

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ChemLinked Team, REACH24H Consulting Group

Website: <http://www.chemlinked.com> | Email: contact@chemlinked.com

Tel: +353 1 8899 951 / +86 (0)571 8609 4444

National Food Safety Standard

Determination of Residual Solvents in Food Contact Materials and Products

1 Scope

This standard specifies the gas chromatography method and gas chromatography-mass spectrometry method for the determination of 25 solvent residues in food contact composite materials and products, including cyclohexane, methylcyclohexane, acetone, ethyl acetate, methanol, isopropyl acetate, butanone, isopropanol, ethanol, n-propyl acetate, 4-methyl-2-pentanone, n-propanol, butyl acetate, isobutanol, n-butanol, ethylene glycol methyl ether acetate, propylene glycol methyl ether acetate, propylene glycol methyl ether, propylene glycol ethyl ether, benzene, toluene, ethylbenzene, o-xylene, p-xylene, and m-xylene.

This standard applies to the determination of residual solvents in food contact composite materials and products.

Method 1 Gas Chromatography

2 Principle

The food contact materials and product samples are placed in a headspace bottle and heated to make the components to be tested reach liquid- gas equilibrium. The headspace gas is separated by a gas chromatography column and detected by a hydrogen flame ionization detector and quantified by the external standard method.

3 Reagents and materials

3.1 Reagents

N,N-Dimethylformamide (C_3H_7NO): chromatographically pure.

3.2 Standards

Cyclohexane, methylcyclohexane, acetone, ethyl acetate, methanol, isopropyl acetate, butanone, isopropanol, ethanol, n-propyl acetate, 4-methyl-2-pentanone, n-propanol, butyl acetate, isobutanol, n-butanol, ethylene glycol methyl ether acetate, propylene glycol methyl ether acetate, propylene glycol methyl ether, propylene glycol ethyl ether, benzene, toluene, ethylbenzene, o-xylene, p-xylene, m-xylene: purity $\geq 98\%$, or standard substances certified



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